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ABSTRACT

Four questions concerning the relationship between results of cloze test scores and individual reading ability are investigated: (1) Is there a relationship between the cloze results and individual reading ability? (2) Should cloze tests be written at mean grade level? (3) Which provides higher correlations--giving credit for exact responses only or for exact responses and synonyms? and (4) Can the cloze test be considered a valuable part of student reading assessment? Four hundred and seventy students in grades 1 through 5 at a Snyder, New York, elementary school were administered both the Stanford Achievement Test and cloze passages from basal readers. Correlation of the scores ranged from .64 to .76 using cloze material near the grade mean. It appeared that greater dispersion of the population is achieved through use of more difficult materials. Scoring synonyms and exact words was found desirable. It was concluded that advantages of the cloze test are (1) that the student must comprehend what he is reading to do well, while random guessing can lead to high scores on the Stanford test and (2) there is no time limit on the cloze, hence the slow, careful reader scores well while the fast random guesser does not. Tables and references are included. (AL)

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Cloze as a Predictor of Reading Group Placement

Research Report

Thursday, April 22, 1971

Originally devised by Wilson Taylor in 1953 as a tool for measuring the readability of a given passage, the cloze test has also been used to measure and to teach comprehension. This paper seeks to examine another possible use, that of ranking students across grade levels for placement in reading groups with correct instructional reading material.

Background

The cloze test is based on the Gestalt theory of closure, that the whole is more than the sum of the parts. Randomly selected passages have every Nth word deleted and replaced by a blank of standard length. The reader replaces the missing word, using his background of motivation, self-concept, experience, linguistic abilities, intelligence and word-attack knowledge. He is not verbalizing or word-calling; he is reconstructing the whole, which is more than the sum of the parts. He is reading.

Problem

The purpose of this study is to investigate the relationship between cloze test results and individual reading ability. Taken to be the criterion of "reading ability" for this study will be the combined raw scores of the two reading subtests of the Stanford Achievement Test, Form X--Word meaning and Paragraph meaning.

Answers to the following questions will be sought:

1. Does a relationship exist between cloze and individual reading ability as represented by the two Stanford reading subtests?

2. At what grade level is cloze written for best pupil discrimination--below grade mean or at grade mean?

3. Which provides higher correlation--giving credit for exact responses only, or for exact responses and synonyms?

4. Can the cloze test be considered a valuable part of student reading assessment?

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Procedure

The population consisted of 470 students, grade one through grade five in suburban Smallwood Drive Elementary School, Snyder, New York. One of the four third grade classes was omitted from the study because of misunderstood directions. Sixth grade classes were excluded because they will not be in the school in September, 1970, for continuing research. Results from one sixth grade class, tested in mid-April, were included to indicate validity at this level.

The cloze was administered the first of June, approximately three weeks after the Stanford. In all grades, save first, both tests were administered by the same teacher, in the same classroom setting. In first grade the Stanford was administered by the reading teacher rather than the homeroom teacher. (Classes change for reading at all grade levels.)

Unlike the Stanford, which is a timed test, no time limit was given for completion of the cloze test. Teachers were asked to allow students as much time as they wished to complete the test, and to give no assistance.

Cloze data for eleven primary students was withdrawn because they failed to complete three-fourths to one-half of the cloze test after an apparently successful start. Incomplete Stanford results for ten students resulted in their exclusion from the study.

Pilot tests were administered during the five months prior to the June testing. At that time random selections were made from basal reading material, below, above and at grade level. For the present study, the first story was taken from the next grade basal, which was unfamiliar to the student. That is, a fourth grade class used a 5[1] story.

The first paragraph of each story was kept intact. Thereafter, at the third grade level approximately every 5th word was deleted, and at the other grade levels every 7th word was deleted. Substitute deletions were made when proper nouns were repeated. Fifty deletions were made for each test.

All scoring was done by the author. Initially only exact responses were credited. Later synonyms were also accepted. A mask was used, which exposed student responses. Every acceptable answer was written on the mask to avoid teacher error. For example: "The pool was _____ of steel." The exact response was "made." Accepted also was "built" and "constructed." Misspellings and grammatical errors were accepted.

Results

Table I:

Means, Standard Deviations and Correlations for Cloze Synonym Test and Stanford Achievement Test, Form X -- Word Meaning and Paragraph Meaning

TEST	GRADE	N	MEAN	STD. D.	CORRELATION
Cloze 2[1]	First	91	18.8	14.6	.75
St.Prim.I			49.0	18.0	
Cloze 3[1]	Second	82	36.4	10.3	.73
St.Prim.II			63.9	17.0	
Cloze 4[1]	Third	68	35.6	7.0	.64
St.Prim.II			75.4	10.8	
Cloze 5[1]	Fourth	97	36.4	5.5	.76
St.Int.I			67.6	14.8	
Cloze 6[1]	Fifth	104	37.9	7.1	.74
St.Int.II			67.4	22.4	
Cloze 6[2]	Sixth	26	34.8	6.4	.82
St. Int.II			72.3	17.6	
All Cloze First through sixth		470	33.0	11.8	.72
All Stanford			64.6	19.2	

Correlation at grade levels varied from .64 to .76 with an overall correlation of .72. It is of interest to note that the third grade test with every 5th rather than every 7th deletion presents the lowest correlation. A fairly strong relationship appears to exist between cloze synonym tests and the two Stanford reading subtests.

Table II:

Means, Standard Deviations and Correlations for Cloze Synonym Tests at Varying Levels of Difficulty

TEST	GRADE	N	MEAN	STD.D.	CORRELATION
Cloze 4^1	Third	68	35.6	7.0	.64
Cloze 4^1	Fifth	21	41.9	4.5	.56
Cloze 4^1	Fifth	21	41.9	4.5	.56
Cloze 6^1	Fifth	21	38.3	5.1	.68

It appears that the more difficult the cloze passage, the greater the dispersion. When the same 4^1 cloze test was given to a third and a fifth grade, the group to whom it was more difficult, the third grade, received a lower mean, a higher standard deviation and hence a greater dispersion. In like manner, when the same fifth grade class was given a 6^1 test, their mean decreased the standard deviation increased, and correlation with the Stanford rose .12. It should be noted, however, that the 4^1 passage deleted every 5th word, and the 6^1 passage every 7th word.

Table III:

Means, Standard Deviation and Correlations of Cloze Tests Scored for Exact (E) and Exact and Synonym (ES) Responses

TEST	TYPE OF SCORING	GRADE	N	MEAN	STD.D.	CORRELATION
Cloze 2^2	E	Second	22	17.5	8.9	.89
	ES			23.4	12.3	.94
Cloze 6^2	E	Sixth	26	22.6	3.1	.38
	ES			34.8	6.4	.82

At the primary and intermediate levels, but particularly at the intermediate level, higher correlations resulted from acceptance of synonyms. As the reading materials increase in difficulty, a more precise vocabulary is employed. Student difficulty replacing exact omissions appear to be compensated for with this scoring technique.

In readability studies, where the material is being tested, it was found that scoring synonyms did not improve correlations significantly. (2), (3). However, used as a predictor of student reading ability, scoring for synonyms does appear to have merit.

Summary and Conclusions

1. Relationship between cloze and reading ability, as represented by Stanford reading subtests.
   Correlation at grade level varied from .64 to .76 using cloze material at approximately grade mean. The lowest correlation appeared at the third grade level. This lower correlation may be attributable to the deletion of every 5th rather than 7th word. Further research is recommended.

2. Grade level of cloze material.
   It would appear that greater dispersion of population is achieved through use of more difficult cloze passages. Research using more difficult material is currently being conducted by the author.

3. Scoring for exact, and exact and synonym responses.
   Measuring student ability rather than reading material, it would seem that scoring for synonyms is desirable. Enriched vocabulary, such as the substitution of "constructed" for "made" should not be penalized, but accepted as correct. Weighted scoring providing extra credit for such responses was considered, but rejected as too cumbersome and too subjective.

4. Cloze as a valuable part of student reading assessment.
   The Stanford Achievement Test, Form X, Primary II, paragraph meaning subtest consists of thirty paragraphs, varying in length from one to eight sentences, with an average length of three sentences. The student is given four possible answers. In contrast, the cloze test consists of one main, related passage. This author believes that students are able to select correct answers on the Stanford by comprehending, or be verbalizing, or by making a lucky guess. On the cloze test, no choices are given. To achieve a correct response, the student must comprehend. He must reconstruct the whole which is greater than the sum of the parts. He must read. Because the cloze imposes no time limit, the slow careful reader who may complete only one-fifth of the Stanford is not necessarily judged a poorer reader than the faster student with questionable ability who randomly checks all possible answers, 1, 2, 3, or 4, with some success.

Rather than testing for a nebulous grade level, the teacher may test to "fit" the child to the reading material. (Bormuth (1) suggests a score of 44 per cent accuracy (E) as defining instructional level.) Requiring a minimum expenditure of effort to compose and administer, this author would encourage teachers to try this deceptively-simple, revealing test.

References

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